CLAIMS

1. A method for polishing a metallized surface on a workpiece, said metallized
surface having a polish-resistant film thereon, said method comprising;
pretreating said metallized surface to substantially remove said film; and
polishing said metallized surface by creating relative movement between said
metallized surface and a polishing surface at a first pressure in the presence of a polishing
solution.

- 2. A method according to Claim 1 wherein said metallized surface is copper.
- 3. A method according to Claim 2 wherein said first pressure is substantially between 0.1 psi and 3.0 psi.
- 4. A method according to Claim 3 wherein said first pressure is between 0.5 psi and 2.0 psi.
- 5. A method according to Claim 3 wherein the steps of pretreating and polishing occur at a temperature substantially between 10 degrees Centigrade and 30 degrees Centigrade.
- 6. A method according to Claim 2 wherein the pretreating comprises sputtering to remove said film.
- 7. A method according to Claim 6 wherein the sputtering occurs in an argon chamber.
- 8. A method according to Claim 1 wherein the relative movement is rotary movement.
- 9. A method according to Claim 1 wherein the relative movement is orbital movement.
- 10. A method according to Claim 4 wherein the pretreating comprises creating relative motion between said film and a polishing surface at a second pressure which is higher

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than said first pressure.

- 11. A method according to Claim 10 wherein said second pressure is substantially between 3 psi and 10 psi.
- 12. A method according to Claim 11 wherein said second pressure is between 5 psi and 6 psi.
- 13. A method according to Claim 11 where the step of polishing the film occurs at a temperature between 10 degrees Centigrade and 30 degrees Centigrade.
- 14. A method according to Claim 1 wherein the step of polishing the film occurs in the presence of a substantially non-abrasive polishing solution.
- 15. A method according to Claim 14 wherein said non-abrasive polishing solution contains less than one percent by weight of polishing abrasive.
- 16. A method according to Claim 11 wherein the step of polishing the film occurs in the presence of an abrasive polishing solution.
- 17. A method according to Claim 11 wherein the step of pretreating occurs for approximately one to twenty seconds.
- 18. A method according to Claim 2 wherein the step of pretreating occurs in the presence of an abrasive polishing solution.
- 19. A method according to Claim 18 wherein the step of pretreating occurs at a temperature between 10 degrees Centigrade and 30 degrees Centigrade.
- 20. A method for polishing a metallized surface on a workpiece, said metallized surface having a polish-resistant film thereon, said method comprising;
- 3 sputtering said metallized surface to substantially remove said film; and
- 4 polishing said metallized surface by creating relative motion between said

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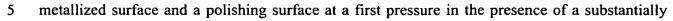
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- 6 non-abrasive polishing solution.
 - 21. A method according to Claim 20 wherein said relative motion is primarily nonorbital motion of the polishing pad.
 - 22. A method according to Claim 20 wherein said metallized surface is copper.
 - 23. A method according to Claim 22 wherein said sputtering takes places in an argon chamber.
 - 24. A method according to Claim 23 wherein said first pressure is substantially between 0.1 and 3.0 psi.
 - 25. A method according to Claim 24 wherein said first pressure is substantially between 0.5 psi and 2.0 psi.
 - 26. A method according to Claim 22 wherein the step of polishing takes place in the presence of a non-abrasive polishing solution.
 - 27. A method according to Claim 26 wherein said polishing solution contains less than one percent by weight of abrasive polishing material.
 - 28. A method for polishing a metallized layer on a workpiece, said metallized layer having a polish-resistant film thereon, said method comprising;
 - polishing said film by creating relative motion between said film and a polishing surface at a first pressure until said polish-resistant film is substantially removed; and
 - polishing said metallized surface by creating relative motion between said metallized surface and a polishing surface at a second pressure in the presence of a substantially non-abrasive polishing solution.
 - 29. A method according to Claim 28 wherein said relative motion comprises primarily non-orbital motion of the polishing pad.

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- 30. A method according to Claim 28 wherein said metallized layer is copper.
- 31. A method according to Claim 30 wherein said second pressure is substantially between 0.1 psi and 3.0 psi.
- 32. A method according to Claim 29 wherein the non-orbital motion comprises rotational motion.
- 33. A method according to Claim 29 wherein the non-orbital motion comprises linear motion of a linear belt-type polishing pad
- 34. A method according to Claim 30 wherein said first pressure is substantially between 3 psi and 10 psi.
- 35. A method according to Claim 28 wherein the first and second polishing steps are performed with different polishing heads.
- 36. A method according to Claim 29 wherein the different polishing heads are on a carousel apparatus.
- 37. A method according to Claim 28 wherein the first and second polishing steps are performed on the same polishing station.
- 1 38. A method for polishing a metallized surface on a workpiece, said metallized 2 surface having a polish-resistant film thereon, said method comprising;
 - polishing said metallized surface by creating relative movement between said metallized surface and a polishing surface at a first polishing velocity to substantially remove said film; and
- polishing said metallized surface by creating relative movement between said metallized surface and a polishing surface at a second, reduced polish velocity in the presence of a polishing solution.

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- 39. The method of Claim 38, wherein the first polish velocity is two to three times the second polish velocity.
- 40. The method of Claim 39, wherein the relative movement between said metallized surface and a polishing surface comprises rotational motion of the polishing surface.
- 41. The method of Claim 39, wherein the relative movement between said metallized surface and a polishing surface comprises primarily linear motion of a linear belt-type polishing pad.
- 42. A method for polishing a metallized surface on a workpiece, said metallized surface having a polish-resistant film thereon, said method comprising;

chemically stripping said polish-resistant film from said metallized surface using an etching solution; and

polishing said metallized surface by creating relative movement between said metallized surface and a polishing surface in the presence of a polishing solution.

- 43. The method of claim 42, wherein said step of chemically stripping comprises dipping the workpiece in a bath of the etching solution.
- 44. The method of claim 42, wherein the step of chemically stripping comprises polishing said metallized surface by creating relative movement between said metallized surface and a polishing surface in the presence of the etching solution.
- 45. The method of claim 42, wherein the etching solution comprises dilute inorganic acid.
- 46. The method of claim 42, wherein the etching solution comprises dilute organic acid.

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